



MATERIAL SAFETY DATA SHEET

3M
3M Center
St. Paul, Minnesota
55144-1000
(612) 733-1110

Runs No.: 90-617-3082

DIVISION: INDUSTRIAL CHEMICAL PRODUCTS DIVISION

TRADE NAME:

FC-129 FLUORAD® Brand Fluorochemical Surfactant

3M ID NUMBER: 41-2700-4235-5 98-0211-0623-6 98-0211-0624-4 98-0211-0905-7
98-0211-4967-3 ZF-0002-0010-9 ZF-0002-5033-0 ZF-0002-5169-2
ZF-0002-5170-0 ZF-0002-5408-4 ZF-0002-7434-8

ISSUED: March 10, 1992

SUPERSEDES: March 03, 1992

DOCUMENT: 10-3806-6

1. INGREDIENT

C.A.S. NO.

PERCENT

POTASSIUM FLUOROALKYL CARBOXYLATE.....	2991-51-7	40.0	- 44.0
WATER.....	7732-18-5		32.0
ETHANOL, 2-BUTOXY.....	111-76-2		14.0
POTASSIUM FLUOROALKYL CARBOXYLATE.....	67584-51-4	1.0	- 5.0
ETHANOL.....	64-17-5		4.0
POTASSIUM FLUOROALKYL CARBOXYLATE.....	67584-53-6	1.0	- 4.0
POTASSIUM FLUOROALKYL CARBOXYLATE.....	67584-52-5	1.0	- 4.0
POTASSIUM FLUOROALKYL CARBOXYLATE.....	67584-62-7	1.0	- 2.0

This product contains the following toxic chemical or chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

ETHANOL, 2-BUTOXY-

2. PHYSICAL DATA

BOILING POINT:.....	ca. 100.00 C
VAPOR PRESSURE:.....	ca. 28.0000 mmHg Calc. @ R.T.
VAPOR DENSITY:.....	ca. 0.70 Air=1 Calc. @ R.T.
EVAPORATION RATE:.....	< 1.00 BuOAc=1
SOLUBILITY IN WATER:.....	apprec.
SPECIFIC GRAVITY:.....	ca. 1.300 Water=
PERCENT VOLATILE:.....	ca. 50.00 %
VOLATILE ORGANIC COMPOUNDS:....	N/D
VOC LESS H2O & EXEMPT SOLVENTS:....	N/D
pH:.....	ca. 11.00
VISCOSITY:.....	N/D
Melting point:.....	N/D

APPEARANCE AND ODOR:

Yellow to amber liquid with butyl cellosolve odor.

Abbreviations: N/D - Not Determined N/A - Not Applicable

3. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT:..... 46.00 C PMCC

FLAMMABLE LIMITS - LEL:..... N/A

FLAMMABLE LIMITS - UEL:..... N/A

AUTOIGNITION TEMPERATURE:..... N/D

EXTINGUISHING MEDIA:

Water, CO₂, Dry Chemical

SPECIAL FIRE FIGHTING PROCEDURES:

Full protective clothing including self-contained breathing apparatus, coat, pants, gloves, boots, and bands around legs, arms and waist should be provided. No skin surface should be exposed.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Toxic by-products, including HF, may be formed.

NFPA HAZARD CODES: HEALTH: 3 FIRE: 2 REACTIVITY: 0
UNUSUAL REACTION HAZARD: none

4. REACTIVITY DATA

STABILITY: Stable

INCOMPATIBILITY - MATERIALS/CONDITIONS TO AVOID:

Not Applicable

HAZARDOUS POLYMERIZATION: Hazardous polymerization will not occur.

HAZARDOUS DECOMPOSITION PRODUCTS:

Thermal decomposition may produce toxic materials including HF.

5. ENVIRONMENTAL INFORMATION

SPILL RESPONSE:

Observe precautions from other sections. Ventilate. Extinguish all ignition sources. Cover with absorbent material. Collect spilled material. Place in a U.S. DOT approved container and seal.

RECOMMENDED DISPOSAL:

Mix with flammable material and incinerate in a permitted hazardous waste incinerator. Combustion products will include HF. Since regulations vary, consult applicable regulations or authorities before disposal. U.S. EPA Hazardous Waste No.: D001 (Ignitable)

Abbreviations: N/D - Not Determined N/A - Not Applicable

5. ENVIRONMENTAL INFORMATION (continued)

ENVIRONMENTAL DATA:

COD=0.43 g/g product; BOD20=0.3 g/g product; 96-Hr. LC50, Fathead Minnow(*Pimephales promelas*)=518 mg/l; Acute Inhibitory Effect on Activated Sludge Respiration Rate = None at 1000 mg/l.

SARA HAZARD CLASS:

FIRE HAZARD: Yes **PRESSURE:** No **REACTIVITY:** No **ACUTE:** Yes **CHRONIC:** Yes

6. SUGGESTED FIRST AID

EYE CONTACT:

Immediately flush with plenty of water. Call a physician.

SKIN CONTACT:

Wash affected area with soap and water.

INHALATION:

Remove to fresh air.

IF SWALLOWED:

Give two glasses of water. IMMEDIATELY call a physician or Poison Control Center.

7. PRECAUTIONARY INFORMATION

EYE PROTECTION:

Safety Goggles

SKIN PROTECTION:

Rubber Gloves

RECOMMENDED VENTILATION:

Local exhaust ventilation is recommended.

RESPIRATORY PROTECTION:

Above component exposure limits, use organic vapor cartridge respirator.

PREVENTION OF ACCIDENTAL INGESTION:

Not determined.

RECOMMENDED STORAGE:

Not determined.

7. PRECAUTIONARY INFORMATION (continued)**FIRE AND EXPLOSION AVOIDANCE:**

Not determined.

OTHER PRECAUTIONARY INFORMATION:

Avoid skin contact. Avoid eye contact. Do not take internally. Use only in well ventilated areas with sufficient air movement to maintain airborne levels at recognized health and safety levels. Avoid breathing vapors or mists. **** FC-129 will freeze, warm to room temperature and stir before using. The USDA-FSIS has established a reference file for this product.

EXPOSURE LIMITS

INGREDIENT	VALUE	UNIT	TYPE	AUTH	SKIN*
POTASSIUM FLUOROALKYL CARBOXYLATE....	0.1	MG/M3	TWA	3M	Y
WATER.....	NONE	NONE	NONE	NONE	
ETHANOL,2-BUTOXY-.....	25	PPM	TWA	ACGIH	Y
ETHANOL,2-BUTOXY-.....	121	MG/M3	TWA	ACGIH	Y
ETHANOL,2-BUTOXY-.....	25	PPM	TWA	OSHA	Y
ETHANOL,2-BUTOXY-.....	120	MG/M3	TWA	OSHA	Y
POTASSIUM FLUOROALKYL CARBOXYLATE....	0.1	MG/M3	TWA	3M	Y
ETHANOL.....	1000	PPM	TWA	ACGIH	
ETHANOL.....	1880	MG/M3	TWA	ACGIH	
ETHANOL.....	1000	PPM	TWA	OSHA	
ETHANOL.....	1900	MG/M3	TWA	OSHA	
POTASSIUM FLUOROALKYL CARBOXYLATE....	0.1	MG/M3	TWA	3M	Y
POTASSIUM FLUOROALKYL CARBOXYLATE....	0.1	MG/M3	TWA	3M	Y
POTASSIUM FLUOROALKYL CARBOXYLATE....	0.1	MG/M3	TWA	3M	Y

* SKIN NOTATION: Listed substances indicated with 'Y' under SKIN refer to the potential contribution to the overall exposure by the cutaneous route including mucous membrane and eye, either by airborne or, more particularly, by direct contact with the substance. Vehicles can alter skin absorption.

SOURCE OF EXPOSURE LIMIT DATA:

- ACGIH: American Conference of Governmental Industrial Hygienists
- OSHA: Occupational Safety and Health Administration
- 3M: 3M Recommended Exposure Guidelines
- NONE: None Established

8. HEALTH HAZARD DATA**EYE CONTACT:**

FC-129 is minimally irritating to the eyes. Persons coming in direct eye contact with FC-129 would be expected to experience a transient irritation, but no permanent damage.

Abbreviations: N/D - Not Determined N/A - Not Applicable

8. HEALTH HAZARD DATA (continued)

SKIN CONTACT:

FC-129 is slightly toxic on an acute dermal basis.

FC-129 may be absorbed through the skin. Minimally irritating to the skin on direct contact.

INHALATION:

2-butoxyethanol and ethanol cause irritation of the respiratory system and nervous system impairment; 2-butoxyethanol may cause blood changes based on animal studies. Symptoms of overexposure may include headache, drowsiness, dizziness, weakness, slurred speech, tremor, blurred vision, suffocation, congestion, loss of coordination, fatigue and stupor.

IF SWALLOWED:

FC-129 is slightly toxic upon ingestion. The acute oral LD50 (rat) is 500-1250 milligrams per kilograms of body weight.

SECTION CHANGE DATES

INGREDIENTS	SECTION CHANGED SINCE March 03, 1992	ISSUE
PRECAUTIONARY INFO.	SECTION CHANGED SINCE March 03, 1992	ISSUE

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The information on this Data Sheet represents our current data and best opinion as to the proper use and handling of this product under normal conditions. Any use of the product which is not in conformance with this Data Sheet or which involves using the product in combination with any other product or any other process is the responsibility of the user.